Day 208 **C Tier 10-a-day: Model Solutions**

1 Rounding money

Round £5.78 to the nearest pound.

Look at the pence: 78 p
50p or more, so round up
Answer: £6

2 Perimeter and area of a square

A square picture has sides of length 11 m.
(a) Work out its perimeter.
(b) Work out its area.

(a) A square has 4 equal sides: 4 × 11 = 44
(b) Area = side × side: 11 × 11 = 121
Answer: (a) 44 m (b) 121 m^2

3 Writing expressions

Nina thinks of a number, p.
Nina multiplies the number by 2 and then adds 6.
Write an expression for the answer.

Multiply by 2: 2p
Then add 6: 2p + 6
Answer: 2p + 6

4 Line graphs

The line graph shows the temperature in a garden at different times.
At what time was the temperature greatest?

The highest point on the graph is 12°C
This is at 9 am
Answer: 9 am

5 Number puzzles

I think of a number.
I divide it by 6.
My answer is 12.
What number did I think of?

Work backwards: multiply by 6
12 × 6 = 72
Answer: 72

6 Missing side from area

A rectangular garden has an area of 80 m^2.
Its width is 8 m.
Work out its length.

Area = length × width
80 = length × 8
length = 80 ÷ 8 = 10
Answer: 10 m

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7 Pattern sequences

Matchsticks are used to make a pattern of triangles.
The diagram shows the first three patterns.
How many matchsticks are needed for
(a) Pattern 6
(b) Pattern 8

Pattern 1, 2, 3 have 3, 5, 7 matchsticks
Each pattern has 2 more matchsticks than the one before
Pattern 6: $3 + 2 \times 5 = 13$
Pattern 8: $3 + 2 \times 7 = 17$
Answer: (a) 13 (b) 17

8 Sampling

Tom wants to find out how people in a city travel to work.
Tom asks only people waiting at a bus stop.
Give a reason why this sample may be biased.

People at a bus stop are more likely to travel by bus
Answer: People at a bus stop are more likely to travel by bus

9 Coordinates

(a) Write down the coordinates of point C.
(b) Which point has coordinates $(-3, 2)$?

(a) C is left 1 and down 2
(b) Go left 3 and up 2: this is point S
Answer: (a) $(-1, -2)$ (b) S

10 Pay rates

Kira is paid £12 for each hour of work.
Kira works for 2 hours.
How much is Kira paid?

£12 × 2 = £24
Answer: £24